## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for array design, comprising:

receiving from a customer, at least one array design parameter and notification of at least one gene of interest;

database searching to obtain sequence data for probe selection for said at least one gene of interest;

curating said sequence data after said database searching;

selecting at least one probe specific for said curated sequence data;

providing at least one additional array design parameter; and

completing at least one array design using said at least one array design parameter received from said customer, said at least one probe specific for said curated sequence data, and said at least one additional array design parameter.

2. (Previously Presented) The method of claim 1, wherein said completing is carried out by a vendor.

3. (Original) The method of claim 1, wherein said completing is carried out by said customer.

4. (Previously Presented) The method of claim 1, wherein said array design is for a nucleic acid array.

5. (Previously Presented) The method of claim 1, wherein said at least one array design parameter received from said customer comprises layout parameters.

6. (Previously Presented) The method of claim 1, wherein said at least one array design parameter received from said customer comprises probe parameters.

7. (Previously Presented) The method of claim 1, wherein said at least one array design parameter received from said customer comprises control probe parameters.

8. (Original) The method of claim 1, further comprising generating a visual interface for said customer, said visual interface providing a display with parameter selection options for said selecting.

9. (Previously Presented) The method of claim 8, wherein said generating said visual interface further comprises generating a visual display of an array layout for said customer, which visual display includes said at least one customer selected array design parameter.

10. (Previously Presented) The method of claim 9, further comprising reviewing, by said customer, said at least one array design parameter received from said customer, as shown on said visual display of said array layout.

11. (Previously Presented) The method of claim 9, further comprising revising, by said customer, said at least one array design parameter received from said customer.

Claims 12-21 (Canceled)

22. (Previously Presented) A gene-based array design system, comprising:

means for receiving notification of at least one gene of interest from an array customer;

means for database searching to obtain sequence data for probe selection for said at least one gene of interest;

means for curating said sequence data after database searching by said means for database searching to obtain said sequence data;

means for selecting a plurality of nucleic acid probes specific for said at least one gene of interest; and

means for completing at least one array design that includes at least one of said plurality of nucleic acid probes specific for said at least one gene of interest.

Claims 23-26. (Canceled)

27. (Previously Presented) A method for gene-based array design, comprising:

receiving notification of at least one gene of interest from a customer;

database searching to obtain sequence data for probe selection for said at least one gene of

interest;

curating said sequence data after said database searching

selecting a plurality of nucleic acid probes for said at least one gene of interest; and

completing at least one array design that includes at least one of said nucleic acid probes specific for said at least one gene of interest.

28. (Previously Presented) The method of claim 27, further comprising fabricating said at least one designed array.

Claims 29-30. (Canceled)

31. (Previously Presented) The method of claim 27, wherein said completing is carried out by a vendor.

32. (Previously Presented) The method of claim 27, wherein said completing is carried out by said customer.

33. (Previously Presented) The method of claim 27, further comprising receiving other array design parameters from said customer.

34. (Previously Presented) The method of claim 33, wherein said other array design parameters comprise layout parameters.

35. (Previously Presented) The method of claim 33, wherein said other array design parameters comprise probe parameters.

36. (Previously Presented) The method of claim 33, wherein said other array design parameters comprise control probe parameters.

37. (Previously Presented) The method of claim 27, further comprising generating a visual interface for said customer, said visual interface providing a display with parameter selection options for said selecting.

Claims 38-40. (Canceled)

41. (Previously Presented) The method of claim 28, wherein said array fabrication is in-situ array fabrication.

42. (Previously Presented) The method of claim 1, wherein said curating comprises checking the sequence data for errors, removal of commonly repeated subsequences, and/or removal of any artifacts associated with sequence assembly.

43. (Previously Presented) The method of claim 22, wherein said curating comprises checking the sequence data for errors, removal of commonly repeated subsequences, and/or removal of any artifacts associated with sequence assembly.

44. (Previously Presented) The method of claim 27, wherein said curating comprises checking the sequence data for errors, removal of commonly repeated subsequences, and/or removal of any artifacts associated with sequence assembly.

Claims 45-46. (Canceled)

47. (Previously Presented) The method of claim 1, wherein said curating comprises checking the sequence data for errors.

48. (Previously Presented) The method of claim 1, wherein said curating comprises removal of commonly repeated subsequences.

49. (Previously Presented) The method of claim 1, wherein said curating comprises removal of any artifacts associated with sequence assembly.

50. (New) The method of claim 1, wherein said database searching to obtain sequence data for probe selection for said at least one gene of interest comprises obtaining raw sequence data from a search based upon said at least one gene of interest.

51. (New) The method of claim 27, wherein said database searching to obtain sequence data for probe selection for said at least one gene of interest comprises obtaining raw sequence data from a search based upon said at least one gene of interest.

52. (New) A method for array design, comprising:

selecting, using a first computer, at least one array design parameter and at least one gene of interest;

sending data representative of said at least one design parameter and at least one gene of interest to a second computer; and

further performing the following functions, wherein at least one of the following functions is carried out using the second computer:

database searching based upon said at least one gene of interest, to obtain sequence data for said at least one gene of interest;

curating said sequence data after said database searching;

selecting at least one probe specific for said curated sequence data;

providing at least one additional array design parameter; and

completing at least one array design using said at least one array design parameter received from said customer, said at least one probe specific for said curated sequence data, and said at least one additional array design parameter.

53. (New) The method of claim 52, wherein all of said database searching, said curating, said selecting at least one probe, and said providing at least one additional array design parameter are carried out using the second computer.